Example Notes

1. **IP Address:**
   Numeric identifier assigned to each device on a network so it can send and receive data; works like a digital address.

2. **MAC Address:**
   Permanent hardware identifier on a network interface card used for communication inside local networks.

3. **Subnet:**
   Logical division of a network to control addressing, reduce congestion, and improve traffic organization.

4. **Gateway:**
   Device that acts as an exit point from a local network, allowing communication with external networks or the internet.

5. **DNS:**
   Service that translates human-readable domain names into IP addresses so browsers know where to connect.

6. **DHCP:**
   Automatic system that assigns IP addresses and network settings to devices so users don't configure them manually.

7. **Router:**
   Device that directs data between different networks by choosing the best path for packets to travel.

8. **Switch:**
   Network device that connects multiple devices in a LAN and forwards data only to the intended destination device.

9. **Hub:**
   Basic device that broadcasts any incoming data to all connected ports, causing unnecessary traffic.

10. **LAN:**
    Network covering a limited physical area such as a room, building, or campus, typically privately owned.

11. **WAN:**
    Wide-ranging network connecting multiple LANs across cities, regions, or countries, often using public infrastructure.

12. **VLAN:**
    Logical group of network devices separated within a switch, improving segmentation and security without physical isolation.

13. **Packet:**
    Structured block of data sent over networks containing both user data and routing information.

14. **Frame:**
    Data unit at the link layer containing MAC addresses and error checking for delivery within a LAN.

15. **Protocol**:
    Formal rules that structure how data is formatted, transmitted, received, and acknowledged in a network.

16. **TCP**:
    Reliable transport protocol that establishes a connection, checks for errors, and guarantees ordered data delivery.

17. **UDP**:
    Lightweight transport protocol that sends data without connection setup or delivery guarantees, used for speed-dependent tasks.

18. **HTTP**:
    Web communication protocol used by browsers and servers to request and deliver web pages and resources.

19. **HTTPS**:
    Secure version of HTTP that encrypts traffic with TLS to protect user data and prevent eavesdropping.

20. **NAT**:
    Method that translates private internal IP addresses to a public address so multiple devices share one internet connection.

21. **Firewall**:
    Traffic filter that enforces security rules to allow or block data between networks based on policies.

22. **Port Number:**
    Numerical value that directs incoming network data to the correct application or service on a device.

23. **Bandwidth**:
    Maximum data capacity of a network connection measured per second, determining how much information can pass through.

24. **Latency**:
    Time delay between sending a request and receiving a response, impacting how fast a network feels.

25. **MTU**:
    The largest packet size a network link supports without splitting data into smaller fragments for transmission